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Entered as second class matter, January 21, 1931 at the Post Office at San Juan, Puerto Rico, under the act of August 24 1912.

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Desarrollo Característico de la Bacteria Virulenta en el Ser Humano

Una medida terapéutica lista y probada para combatir la tuberculosis

Tan eficaz como la estreptomicina, el Sulfato de Dihidroestreptomicina Cristalino de Merck & Co., Inc. es menos tóxico al aparato vestibular, disminuye el dolor y la hinchazón en el sitio de la inyección y, en algunos casos, puede usarse en pacientes alérgicos a la estreptomicina.

Este producto de preferencia, se suministra en forma seca y en solución lista para ser inyectada bajo el nombre de Solución de Dihidroestreptomicina Cristalina.

El Acido Para-Aminosalicilico de Merck & Co., Inc. cuando se administra en combinación con el Sulfato de Dihidroestreptomicina Cristalino de Merck & Co., Inc., prolonga el período de acción de la terapia antibiótica inhibiendo o retardando el desarrollo a la resistencia bacterial.

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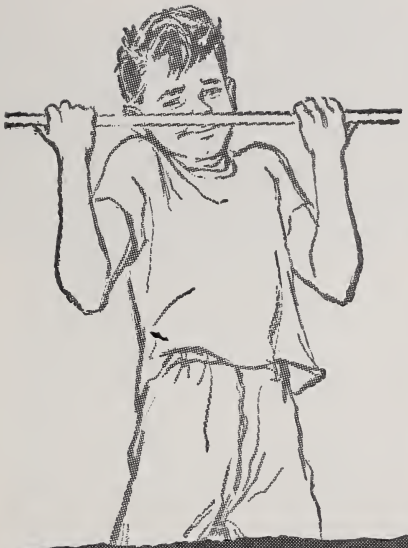
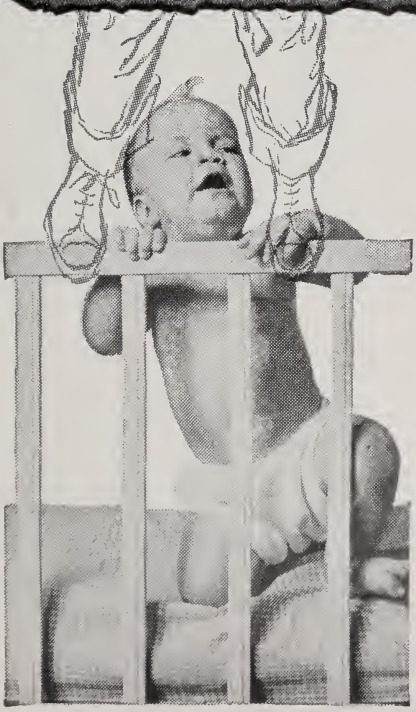
Olac



Mead's powdered formula designed for both full term and premature infants

gives a strong start for a healthy childhood



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HEMO COMPARADO CON LAS NECESIDADES MINIMAS DIARIAS DEL ADULTO

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Vitamina A	4000 Unid. Int.	4000	4900
Vitamina B_1	333 Unid. Int.	333	400
Vitamina B_2(G)	2 miligramos	2	3
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Niacinamida	**	10 mgms.	10.3 mgms.
Hierro	10 miligramos	14.7	15.7
Calcio	750 miligramos	376	950
Fósforo	750 miligramos	288	750

**Según han sido establecidos por el Administrador Federal de Seguridad bajo la autoridad de la Ley Federal de Alimentos y Drogas de los Estados Unidos.*

***Los requerimientos mínimos diarios del adulto aun no definitivamente establecidos.*

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ALIVIO SATISFACTORIO

de los desagradables síntomas urinarios

***El dolor y el ardor disminuyeron en el 93% de los casos...**

***La frecuencia urinaria se corrigió en el 85% de los casos...**

PYRIDIUM OBRA CON RAPIDEZ. En cuestión de minutos su acción local, analgésica e inocua alivia los desagradables síntomas que acompañan a la cistitis, pielonefritis, prostatitis y uretritis.

Se puede administrar Pyridium concomitantemente con estreptomicina, penicilina, sulfonamidas o cualquiera otra medicación específica a fin de que el tratamiento alcance dos fines: el alivio sintomático y la acción correctiva.

**Según un estudio hecho por Kirwin, Lowsley y Menning, en 118 casos tratados para el alivio sintomático con PYRIDIUM.*

***Pyridium es la marca registrada de la Nepera Chemical Co., Inc. sucesora de la Pyridium Corporation, para su forma de cloruro de fenilazo - diamino - piridina. Merck & Co., Inc., únicos distribuidores en E.U.A.*

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—the rational pharmacologic approach[1,2]

—the clinically effective treatment[2,3,4]

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DRUG CENTER INC., APARTADO 8037, SANTURCE, P. R.

REFERENCES:
1. Robinson, F. H., Jr., and Farr, L. E., Ann. Int. Med., **14**:42 (1940)
2. Bickers, W. and Woods, M., Texas Rep. Biol. Med., **9**:406 (1951)
3. Vainder. M., Indust. Med. Surg., **20**:199 (1951)
4. Bickers, W. and Woods, M., New England J. Med. **245**:453 (1951)

How this Small Country Store Helps Protect Your Recommendation of Carnation

YOU'LL FIND this store a few miles up the coast from Santa Monica, California...where Topanga Canyon after winding through the mountains from the San Fernando Valley, meets the Pacific Ocean. And if you were to step inside, you'd see that it is well-stocked with Carnation...the *only* evaporated milk on the shelves.

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Yes, Carnation Milk is *everywhere*. When you specify Carnation for an infant's formula, you can be sure that the mother will be able to find it wherever she travels.

Only Carnation Gives Your Recommendation This 5-WAY PROTECTION

1. Carnation is constantly improving the raw milk supply. Cattle from champion Carnation bloodlines are shipped to farmers all over America to improve the milk supplied to Carnation plants.

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3. Carnation processes ALL the milk sold under its label. From cow to can Carnation Milk is processed–*with prescription accuracy*–in Carnation's own plants under its *own* supervision.

4. Carnation quality control continues even AFTER the milk leaves the plant. To be sure of freshness and highest quality, Carnation salesmen use a special code control in making frequent inspection of dealers' stocks.

5. Carnation Milk is available in virtually every grocery store in every town throughout America.

DOUBLE-RICH in the food values of whole milk

FORTIFIED with 400 units of vitamin D per pint

HEAT-REFINED for easier digestibility

STERILIZED in the sealed can for complete safety

"The Milk Every Doctor Knows" "from Contented Cows"

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Each tablet provides:

MANNITOL HEXANITRATE ..... 35 mg.
Vasodilator of choice, gradually lowering the pressure 30-40 mm., lasting 4-6 hours

SODIUM NITRITE ..... 15 mg.
for relaxation of small blood vessels

RUTIN ..... 20 mg.
to increase resistance of capillary walls

AMINOPHYLLINE .....100 mg.
as a diuretic in cardiac and nephrotic edema

PHENOBARBITAL ..... 10 mg.
mild dosage, to help allay anxiety and decrease tension

HEXATAL, a *rational* combination of *useful* drugs, produces safe, gradual and longer lasting lowering of blood pressure.

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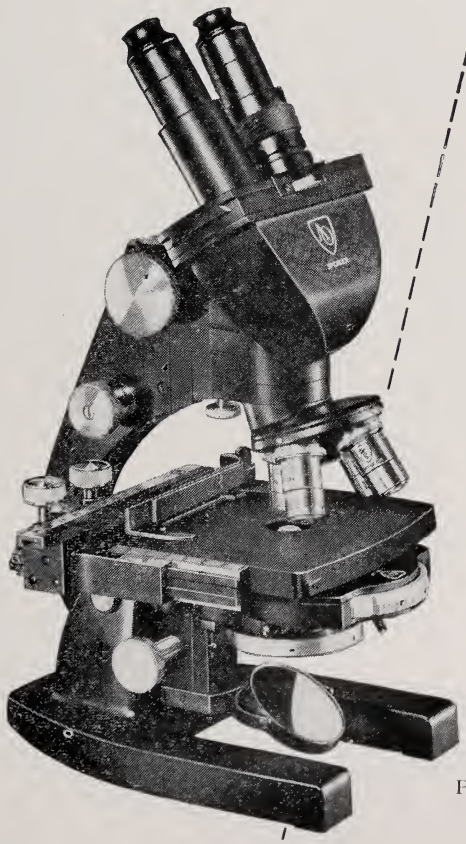
This new series of instruments combines the advantages of "Phase" with the recent mechanical advancements in AO Spencer Microscopes.



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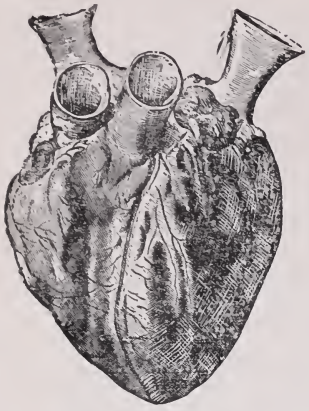
Endocarditis Bacteriana Aguda



resistente a la penicilina y a la sulfadiazina "curada" con Terramicina

Historia clínica: J.S., mujer de 19 años, presentaba una septicemia a Staphylococcus aureus con endocarditis mitral aguda y hemiplegia embólica del lado izquierdo. Fué admitida en estado semicomatoso, gravemente enferma, al noveno día de enfermedad, habiendo fracasado un tratamiento previo intermitente con sulfadiazina y penicilina. "Al no obtenerse respuesta alguna a un tratamiento adicional con 1.050.000 unidades de penicilina, se instituyó la terapia con terramicina al 11° día de enfermedad. Se obtuvo una mejoría gradual progresiva con una dosis diaria promedio de 2 gm. administrada durante 53 días." Resultado: "curación de la paciente".*

CLORHIDRATO DE

Terramicina

CRISTALINA

En la creciente literatura médica se continúa dando importancia a:

1. ***El amplio espectro de actividad antimicrobiana de la Terramicina,*** eficaz contra muchas infecciones causadas por bacterias, rickettsias, espiroquetas, así como ciertas infecciones a virus y protozoarios.

2. ***La rapidez de la respuesta a la Terramicina*** en las infecciones agudas y crónicas que afectan una gran variedad de sistemas, órganos y tejidos.

La Terramicina puede obtenarse en diversas formas de dosificación oral, intravenosa y tópica—

Cápsulas	250 mg., frascos de 16 y 100; 100 mg., frascos de 25 y 100; 50 mg., frascos de 25 y 100.
Elíxir	(antes llamado Terrabón), 1,5 gm. con 29,5 c.c. de diluyente.
Gotas Orales	2 gm. con 10 c.c. de diluyente y un cuentagotas especialmente calibrado.
Intravenosa	frascos de 10 c.c., con 250 mg.; frascos de 20 c.c. con 500 mg.
Ungüento	30 mg. por gm. de ungüento; tubos de 14,17 gm. y 28,35 gm.
Ungüento Oftálmico	5 mg. por gm. de ungüento; tubos de 3,5 gm.
Solución Oftálmica	frascos de 5 c.c. con 25 mg. para la preparación de soluciones tópicas.
Trociscos	15 mg. por pastilla; cajas de 24.

*Blake, F. G.; Friou, G. J., y Wagner, R. R.. Yale J. Biol. & Med. 22:495 (Julio) 1950.

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for their varying vitamin needs

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Clear, light texture . . .
non-sticky; flow easily from dropper

Exceptional dispersibility . . .
disperse instantly in fruit juice or water; mix readily with formula

Highly stable . . .
stable at room temperature; may be autoclaved with formula

Easy, accurate dosage measurement . . .
specially designed, easy-to-read dropper assures accurate dosage

Convenient . . .
may be given in formula, fruit juice or water, or dropped into mouth

	Vitamin A	Vitamin D	Ascorbic Acid	Thiamine	Riboflavin	Niacinamide
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TRI-VI-SOL Each 0.6 cc. supplies	5000 Units	1000 Units	50 mg.			
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En las pastillas TYROZETS se han combinado los notables propiedades *antibióticas* y *microbicidas* de la tirotricina, con la conocida acción *analgésica* de la benzocaína.

Resultado: una fórmula terapéutica ideal en forma de pastillas de sabor muy agradable y de gran eficacia medicamentosa.

TYROZETS ataca los gérmenes patógenos en la cavidad bucal y combate la formación de focos infecciosos.

TYROZETS calma rápidamente la irritación y el dolor de garganta.

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easy to give, easy to take
multivitamin supplement for infants

DISPADAL

Squibb Multivitamin Drops

Dispadal is a pleasant-tasting, non-alcoholic, water-dispersable solution containing balanced amounts of six essential vitamins in drop-dosage form. May be added to milk, juices, soups, cereals, puddings or similar foods, or placed directly on the tongue. Supplied in 20 cc. bottles with dropper scored at 0.6 cc.

Each 0.6 cc. contains:

Vitamin A (synthetic)	5,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine HCl	1.0 mg.
Riboflavin*	0.5 mg.
Niacinamide	10.0 mg.
Ascorbic acid	50.0 mg.

*Riboflavin in Dispadal is in its maximum limit of solubility.

SQUIBB

Ahora . . . en dosis diarias de

un gramo

CLORHIDRATO DE

Aureomicina

CRISTALINA

lederle

Empleada hasta la fecha en más de 10.000.000 de casos clínicos, pasan de 7.000 las comunicaciones que sobre la aureomicina se han publicado provenientes de todos los campos de la práctica médica mundial. Desde 1949, la tendencia de estos estudios viene confirmando la eficacia de dosis más reducidas *de aureomicina, el antibiótico de espectro verdaderamente amplio y actividad verdaderamente uniforme.*

El *nuevo* plan de administración de aureomicina a dosis reducidas:

Dosis	Peso aproximado del paciente	Cantidad a administrarse	Número de dosis cada 24 horas
0,1g diario	8 kilos	Una dosis de 50mg dos veces al día, después de comer	2 dosis
0,5g diario	40 kilos	Una dosis de 250mg dos veces al día, después del desayuno y la cena	2 dosis
		Una dosis de 100mg cada 3 ó 4 horas, después de las comidas	5 dosis
		Una dosis de 50mg cada 2 horas, con leche	10 dosis
1,0g diario	80 kilos	Una dosis de 250mg cada 4 horas	4 dosis
		Una dosis de 100mg cada 2 horas	10 dosis
1,5g diario	120 kilos	Una dosis de 250mg cada 3 horas	6 dosis

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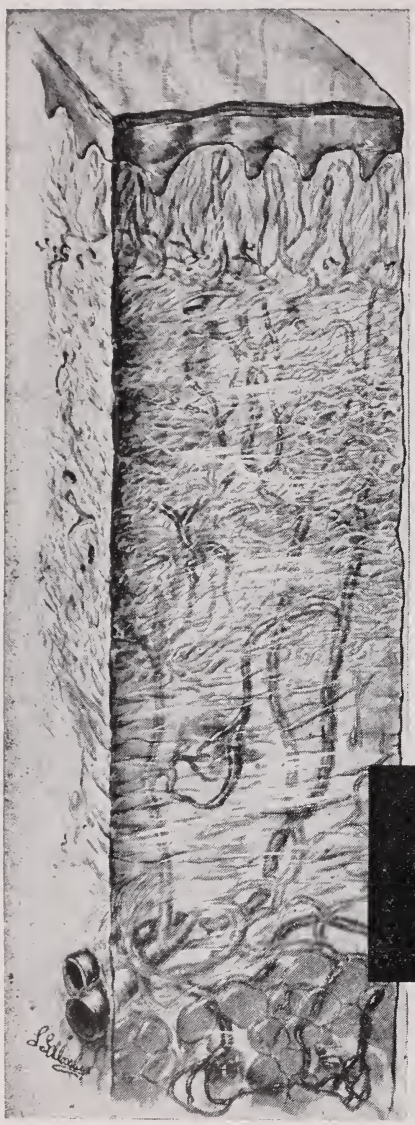

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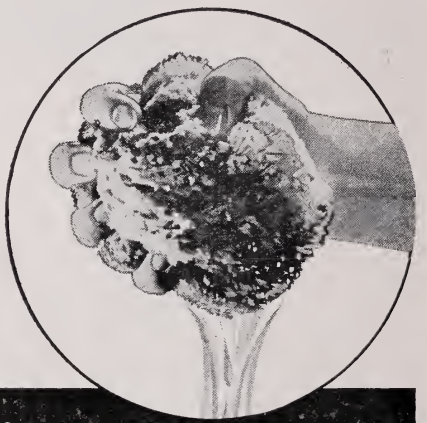

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Parenteral—1 cc. and 2 cc. ampuls.
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DOSAGE

Parenteral: Initial adult test dose 0.5 cc. Thereafter frequent small doses (daily or every other day). Or a larger dose (up to 2 cc.) at less frequent intervals (once or twice a week).

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BOLETIN
DE LA
ASOCIACION MEDICA DE PUERTO RICO

VOL. XLIV AGOSTO, 1952 NO. 8

EXTIRPACION DE ADENOMAS DE LA PROSTATA POR LA VIA CISTO-CERVICO-RETROPUBICA*

JAVIER LONGORIA, M.D.

Una de las más grandes conquistas de la cirugía moderna es la realizada para extirpar con toda facilidad y por el camino más directo los adenomas de la próstata siguiendo la vía retropúbica.

Esta maravillosa técnica fué ideada por el ingenio del ilustre urólogo inglés Terence Millin, quien desde el año de 1945 describe su procedimiento en detalle y con todas sus ventajas.

Así como en años anteriores la técnica de Freyer y Fuller constituyeron una época para la cirugía de estos tumores de la próstata, ahora por su importancia, y la entusiasta acogida que tuvo la vía retropúbica en todos los centros quirúrgicos-urológicos del mundo, se constituye, con el método de Millin, la era de la cirugía retropúbica que tan favorablemente resuelve la extirpación de los tumores de la región prostática benignos o malignos; y aún otros problemas de uretra posterior, como los traumatismos de la misma y la incontinencia urinaria que son satisfactoriamente abordados por esta vía retropúbica obteniéndose brillantes resultados y que abogan por la divulgación de estas nuevas técnicas.

Cuando se describió la resección prostática y se analizaron cuidadosamente sus magníficos resultados, se pensó que se había llegado a la edad de oro de la cirugía prostática, pero al tiempo se encargó de limitar sus indicaciones y señalar sus ventajas y sus inconvenientes. Ahora entra en boga un nuevo método que recientemente se ha impuesto como bueno y que también el tiempo se encargará de decidir si deberá seguir ocupando el lugar que

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El primer reporte fué presentado en la IX Asamblea de Cirujanos, Sección de Urología; en el año de 1950.
Cirujano urólogo, México, D.F.

tiene actualmente o será sustituído por un procedimiento nuevo que sea más fácil y de idénticos resultados.

Después de estos conceptos de orden general, deseo exponer de una manera suscinta la conducta terapéutica seguida en una serie de (cincuenta) intervenciones de tumores benignos de la glándula prostática, y en las cuales empleé la vía retropúbica con sección transversal en el límite entre la pared vesical y la cápsula prostática (Vía-Cisto-cérvico-retropúbica), obteniendo con ello resultados muy halagadores.

Historia: Para complementar este trabajo, voy a referir los siguientes datos históricos sobre esta técnica: En el año 1909, Van Stockum de Holanda, relata dos casos en que fué drenada la próstata paravesicalmente. En 1924, Otto Maier de Innsbruck y en 1933 Jacobs y J. Gasper de San Francisco, usaron la prostatectomía "paravesical" enucleando la glándula a través de una incisión longitudinal hecha en la cápsula prostática. En el año de 1936, Uteau y Leroy usaron una técnica "subpúbica". Se publicaron trabajos sobre operaciones semejantes que por otra parte, no obtuvieron buenos resultados, sino hasta el año de 1945 en que Terence Millin describe su técnica, demasiado conocida por todos ustedes para insistir en ella.

Edad: El paciente más viejo entre nuestros casos, tenía 100 años, el de menor edad fué de sesenta y cuatro, siendo la edad promedio entre 70 y 72 años.

Histopatología: De todos estos pacientes, el estudio histopatológico reveló sólo en tres casos, carcinoma; los demás dueron adenomas y adenofibromas. De los tres primeros referidos, en dos se hizo prostatectomía total, (próstatovesiculectomía y cistectomía), pero este tema, por su importancia, constituye capítulo aparte.

Otros hallazgos: En dos de ellos también encontré abscesos periprostáticos, y en un tercero adenoma y absceso intracapsular. En alguna otra ocasión se presentaron, además del adenoma cálculos pequeños en número variable intra y extra-capsulares.

Exploración: Entre los datos de exploración, usé como medio diagnóstico el tacto rectal, combinado a la palpación bimanual por vía suprapúbica, que en muchas ocasiones me orientó satisfactoriamente; principalmente en tumores grandes y desarrollados hacia la cavidad vesical.

En ninguno de los casos usé la cistoscopía previa, por considerarla inútil, dado que en el procedimiento que después describo, la vejiga puede examinarse directamente por la vista. En alguna ocasión el paso del cistoscopio motivó hemorragia abundante y cuadro febril durante dos días. (Hist. Clin. del Dr. A. G.)

Exploración radiológica: La exploración radiológica uretro-

vesical, la prefería en los casos en que quise precisar la topografía del tumor, obteniendo por las variantes de este procedimiento un diagnóstico preciso.

Estudios de laboratorio: Por lo que se refiere a éstos, usé todos los rutinarios para cualquier intervención quirúrgica; pero además hice especial hincapié, en la dosificación de fosfatasas tanto ácidas como alcalinas. Además cuando tuve sospechas de un padecimiento maligno, ordené el estudio de la secreción prostática obtenida por medio de masaje, e investigación de las alteraciones celulares. (Papanicolaou). Y en alguna ocasión el tratamiento preoperatorio con el dietilstilbestrol. Además complementé cuando fué necesario, con un estudio radiológico de columna vertebral, huesos ilíacos y trocánteres, que pudieran revelar alguna metástasis ósea.

En ninguno de nuestros pacientes nos vimos obligados a recurrir a la cistostomía de derivación. La mayor parte de nuestros enfermos, toleraron satisfactoriamente una sonda de Foley, de calibre variable según el caso, colocada a permanencia durante algunos días, y que modificó favorablemente la cantidad de urea en la sangre. En tres de mis pacientes con ureas altas, en alguno de ellos hasta 1 gr. x 100 c.c., encontramos después de tres a cuatro días de sonda a permanencia, que la urea había descendido hasta cifras normales.

En estas mismas condiciones con el empleo de irrigación contínua con antisépticos tipo (ácido bórico, oxicianuro de mercurio al 1:5000), y el uso de antibióticos indicados, modificaban favorablemente el estado infeccioso local de la vejiga. Todos estos cuidados preoperatorios redundan en ventajas para el momento quirúrgico.

Estudio del corazón: Cuando el caso lo requiso se ordenó estudio electrocardiográfico con objeto de estar advertido del estado del miocardio y elegir la anestesia conveniente y las precauciones del caso en el acto quirúrgico.

Anestesia: La mayor parte de los enfermos fueron operados con raquianestesia, usando dosis de .08 a .12 grs. de procaína Abbott. Algunas veces se presentaron fenómenos de hipotensión que se mejoraron mediante suero fisiológico y sangre en venoclisis; aconsejándose el empleo de estos últimos desde el comienzo de la operación. Excepcionalmente usamos el pentothal combinado con la raquia, y siempre al final de la operación, con objeto de complementar la anestesia.

Técnica de la operación: Usé la vía retropúbica con la modificación que voy a referir: La incisión para abordar la próstata, en lugar de hacerla en la pared anterior de la cápsula a un centímetro del cuello, como en el procedimiento original, la hago precisamente entre la cápsula y el cuello vesical.

La idea nació de un caso de prostatectomía retropúbica, que como a muchos de nosotros nos ha sucedido, que en lugar de hacer la incisión en el lugar indicado lo hacemos sobre el cuello de la vejiga; abriendo esta cavidad en una extensión suficiente. Pude observar en el caso que relato, que la mucosa vesical estaba levantada por lóbulos tumorales que crecían profundamente dentro de la vejiga; logrando separar la mucosa vesical con facilidad, (después de seccionarla a nivel del cuello), de las masas tumorales, y extirparlas como si se tratase de una clásica operación de Freyer, terminando la operación con una revisión cuidadosa del lóbulo prostático, su hemostasis y el cierre de la herida vesical, previa colocación de una sonda de Foley. Así como también el cierre de los demás planos.

El resultado de esta intervención fué muy favorable, pues el paciente al cabo de diez días estaba completamente curado, con micciones espontáneas y sin retención de orina.

Animado por este primer caso, y habiendo encontrado un segundo en que usé también la vía retropúbica, en el cual encontraba dificultad al hacer la sección baja, resolví repetir lo anteriormente hecho obteniendo también muchas facilidades para realizarlo. Por ello me voy a permitir referir a ustedes lo esencial de ésta operación.

Técnica que se propone: Desde luego, la incisión cutánea siempre la he hecho suprapúbica, que considero mejor que la transversal tipo Pfanenstiel que muchos preconizan y encuentran ventajosa.

Los demás tiempos operatorios no cambian en nada la técnica original, únicamente que prefiero emplear el gancho de Sullivan. O'Connor, por carecer del separador especial de Millin.

Las últimas 30 intervenciones las he hecho con el instrumental especializado de Millin, que en realidad proporcionan cierta comodidad. La retracción de la vejiga la efectuo con dos valvas largas del tipo Moyninham, y procuro alejarme de todo contacto con la parte posterior del pubis. Una vez descubierta la pared anterior de la cápsula prostática y el cuello de la vejiga, procuro no traumatizar el tejido celular periprostático que es muy vascularizado, ya que con el menor roce se ocasiona la ruptura de sus deleznables venas, que trae como consecuencia abundantísima hemorragia capsular que obliga al cirujano al uso continuo del aspirador para seguir trabajando.

Esta sección hecha entre el límite del cuello y la porción capsular (Fig. 1-B) no es necesario darle desde un principio la amplitud suficiente; es preferible hacer una pequeña sección e irla agrandando lentamente mediante una pinza que se introduce cerrada y se abre poco a poco hasta alcanzar la extensión necesaria. Con este

pequeño recurso tan usado en cirugía, se logra que los vasos contenidos en la cápsula prostática se ocluyan, y no se produzca la abundante hemorragia que produce una diéresis común. Por otra parte esta disección no maltrata las fibras musculares del cuello de la vejiga puesto que sólo las separa, y al reconstruirse la herida, continuarán su funcionamiento normal.

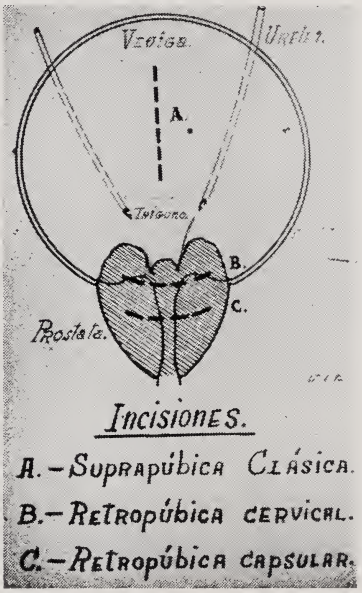


Fig. 1-B

Es conveniente antes de hacer el corte poner dos puntos con catgut atraumático No. 1; uno en el labio superior de la herida, y otro en el inferior, puntos que serán de verdadera utilidad durante la operación y al final de ella, ya que muchas veces la herida capsular se oculta por la hemorragia o por el líquido contenido en la vejiga y que sale al exterior.

Una vez hecha la sección en el lugar indicado, se refieren los bordes de la herida por medio de pinzas de tejido suficientemente anchas, y se hace una cuidadosa separación de los mismos apareciendo en el fondo la mucosa vesical en la parte del cuello levantada por los tumores prostáticos (Fig. 2); se secciona la mucosa que cubre estos tumores y con todo cuidado, bajo el control de la vista, se va despegando la mucosa del cuello de la vejiga, de las masas tumorales en toda su extensión. Una vez la separación hecha, hay que tomar la masa tumoral ya sea por medio de pinzas de garfios como aconsejan algunos autores, o de las pinzas de pequeños garfios como las usadas para tomar las amígdalas, llevando por objeto la no destrucción de estos tumores. Yo prefiero, una vez des-

cubierto el polo superior, colocar un punto X con catgut atraumático No. 1, que nos sirva de tracción, a semejanza de lo que se hace en el Hospital de la Universidad de Tulane para manejar el fondo de la matriz en casos de fibromas uterinos (Fig. 3). Así colocados estos puntos sobre los tumores prostáticos, haciendo tracción sin que el tumor se desgarre, y siempre bajo el control de la vista, hacer una cuidadosa inspección y separación de las masas tumorales yendo siempre del polo superior al inferior contrariamente a lo que aconsejan los autores clásicos. Esta maniobra da una gran facilifad para la separación de las masas tumorales, cuando se sigue el verdadero plano de separación. Cuando existen adherencias periprostáticas, es de suma utilidad hacer tracción y esculpir a base de tijera el límite entre el tumor y la cápsula.

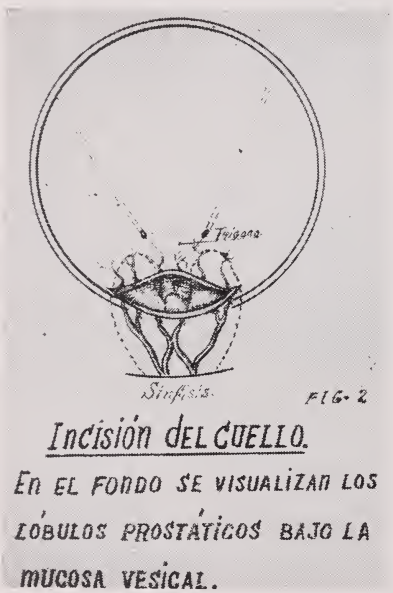


Fig. 2

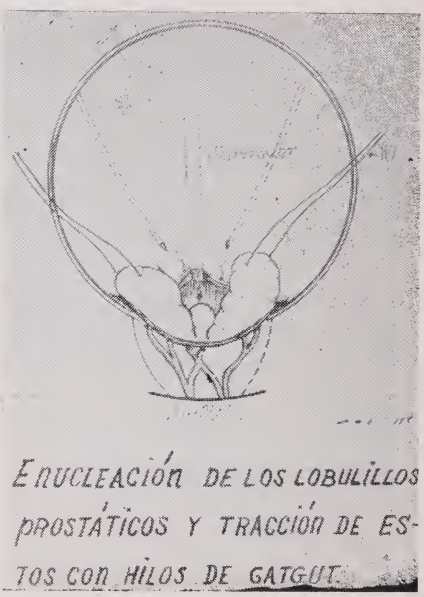


Fig. 3

Una vez extirpados los lóbulos, en muchas ocasiones queda una porción de mucosa en la uretra prostática que puede estar destruída en mayor o menor grado, según el cuidado que se haya tenido al hacer la separación; por ello es preferible hacer una sección quirúrgica de esta mucosa prostática que está tan adherida a las masas tumorales, ya que al jalarla se producen arrancamientos irregulares. En algunas ocasiones nos ha quedado un verdadero canal de tejido mucoso de uretra prostática, que hemos aprovechado para no hacer la sutura del cuello a la mucosa prostática como habitualmente se hace.

Una vez liberada la cápsula de los adenomas, es conveniente

tomar los vasos que sangran en las zonas en que normalmente penetran las arterias de la próstata al pasar la cápsula. Se continúa con una exploración de la cavidad vesival, encontrándose en muchas ocasiones, un lóbulo medio que también hay que extirpar. Con este procedimiento basta colocar dos pequeños ganchos separadores en los bordes de la herida vesical, para tener la exposición precisa de la zona de implantación, y hacer una sección de la mucosa anterior, y de la posterior, en caso de que este lóbulo esté pediculado; terminando naturalmente, con la sutura de esta herida. Se aprovecha este momento para explorar el resto de la vejiga: trígono vesical, orificios ureterales, presencia de otro tumor, cálculos, divertículos vesicales, etc.

Es conveniente hacer una cuidadosa sutura de la mucosa prostática con el cuello de la vejiga, formándose así el piso de la uretra que tanta garantía proporciona para los sondeos subsecuentes y el buen funcionamiento del cuello vesical.

Una vez hecho esto se introduce una sonda uretral prefiriencilita teniendo en cuenta los interesantes estudios de F. A. Beneventi y C. S. Novack (Distribution of the Blood vessels of the prostate gland and urinary bladder; Application to retropubic prostatectomy. J. Urol. 62:663-1949) y de R. H. Floks sobre la circulación de la glándula prostática y cuello de la vejiga (Fig. 4).

Según los cuales sabemos que sus fuentes de origen son: la arteria vesical inferior, hemorroidales medias y pudenda interna. La vesical inferior da las prostáticas en número de cuatro, que penetran precisamente en el lugar de unión entre la próstata y el cuello de la vejiga, distribuyéndose a lo largo de éste para pasar a los lóbulos prostáticos constituyendo la circulación anterior de la glándula, la más importante de ella. La circulación exterior capsular, es menos importante.

H. Harris de Australia con visión clara de la irrigación prostática pudo fundar su procedimiento de ligadura previa de estas arterias en su entrada al cuello vesical a cada lado de la línea media, entre las 5 y las 7 horas, considerando el lóculo prostático como una carátula de reloj y estando las 12 frente al pubis.

Flocks toma una extensión mayor para asegurar mejor estas arterias que dan la irrigación de la glándula, tomando entre la 1 y las 5 por un lado, y entre las 7 y las 11 por otro. De este modo liga las arterias prostáticas en su lugar de entrada, obteniendo una operación casi sin sangre.

Nosotros hemos realizado siempre esta hemostasis por medio de suturas o ligaduras y en ningún caso con electrocoagulación por considerar más ventajosas las primeras.

Una vez hecho esto se introduce una sonda uretral prefiriendo en nuestros casos el uso de la sonda de Nelaton colocada al re-

vés, o una sonda de Pezzer que ha sido seccionada en la mitad de su parte más ancha formándose un embudo que favorece la canalización de la vejiga.

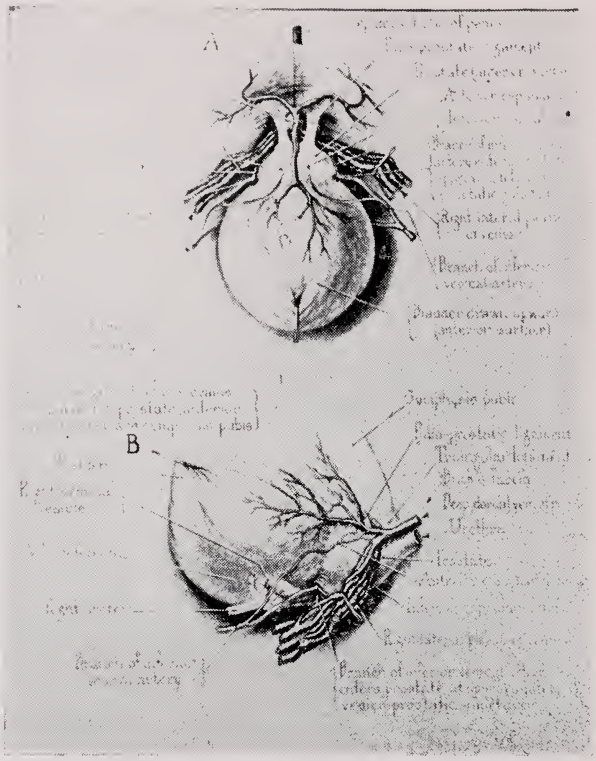
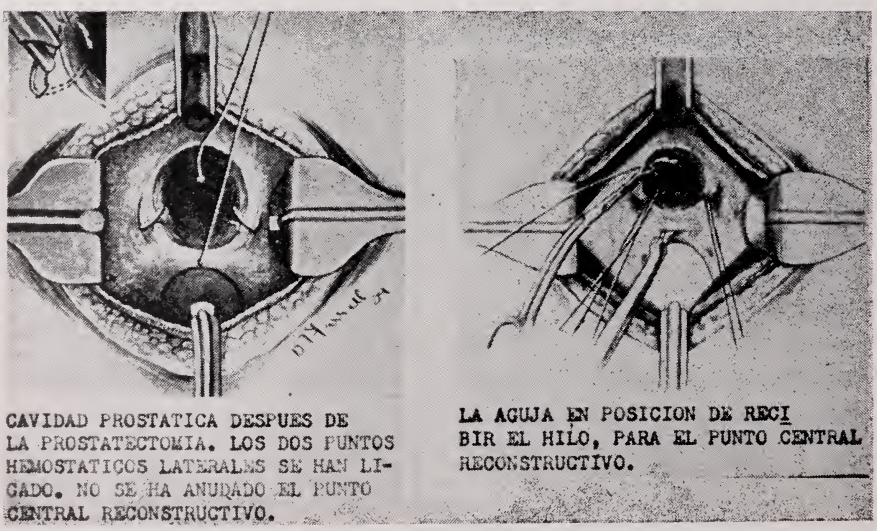


Fig. 4



CAVIDAD PROSTATICA DESPUES DE LA PROSTATECTOMIA. LOS DOS PUNTOS HEMOSTATICOS LATERALES SE HAN LIGADO. NO SE HA ANUDADO EL PUNTO CENTRAL RECONSTRUCTIVO.

LA AGUJA EN POSICION DE RECIBIR EL HILO, PARA EL PUNTO CENTRAL RECONSTRUCTIVO.

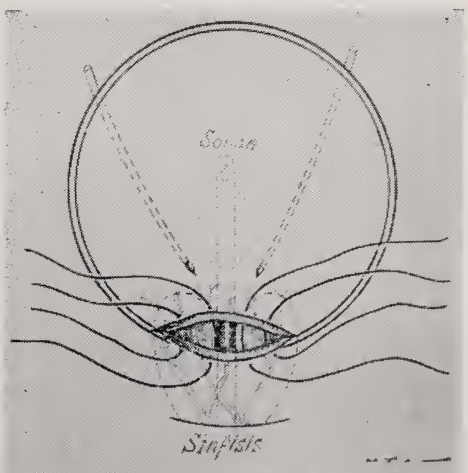
(Tomado de Harris)

La utilidad en el uso de la sonda de Foley, en el procedimiento mencionado, radica únicamente en que la sonda permanece en su lugar gracias al balón; pero consideramos que esta sonda no debe estar situada dentro del lóculo prostático porque en muchas ocasiones queda debajo de la mucosa y cuando es por mucho tiempo se pueden formar diafragmas que es necesario destruir por métodos endoscópicos, (Fig. 5), como tuve oportunidad de observar en un caso en que dicho diafragma se cerró completamente y fué necesario para canalizar la orina, hacer una cistostomía de derivación. Por otra parte impide la retracción del lóculo prostático y favorece la presencia de una hemorragia secundaria, (caso del Sr. P. P., hemorragia mantenida por el balón, y que desapareció al desinflar el mismo.)

Con la sonda en su sitio, no nos queda más que hacer una sutura minuciosa por puntos separados, de la herida vesical; reforzando esta por puntos sobre la fascia periprostática (Fig. 6).

En esta sutura no hemos tenido necesidad de usar el Boomerang; preferimos un porta-agujas largo con una fina aguja atraumática con catgut No. 0, y en esta forma lograr una magnífica sutura.

Cabe hacer notar que algunas veces, para facilitar la intervención cuando los tumores, no son muy accesibles, preferimos usar un ayudante séptico, provisto de guante estéril, que empuje por el recto las masas tumorales hacia arriba, de manera que las manos del cirujano las tenga a su alcance.



SUTURA DE LA INCISIÓN VESICAL SOBRE UNA SONDA DE FOLEY.

Fig. 5

Fig. 6

Se termina la operación con la colocación de un tubo de hule para canalización, y el cierre de los diferentes planos según técnica habitual. (Fig. 6).

La idea fundamental de Millin fué no abrir la vejiga y realizar la prostatectomía retropúbica con los principios básicos de una prostatectomía perineal, abordando la cápsula prostática en su porción anterior con las ventajas que todos conocemos en ese sentido. Sin embargo, la inquietud quirúrgica no conforme con este bello procedimiento ha propuesto, a semejanza del método que yo he usado, el poder explorar de una manera más satisfactoria la cavidad y cuello vesicales donde principalmente radican las alteraciones patológicas, y han ideado una técnica que utiliza la vía retropúbica y que secciona de una manera longitudinal la cápsula prostática y el cuello de la vejiga en una extensión variable para cada autor, constituyendo la prostatectomía cérvico retropúbica.

La idea es conocida desde hace algunos años, pero la perfección la han llevado a cabo los Dres. John R. Hand y Arthur W. Sullivan, quienes refieren en el Journal de la American Medical Association, 145: 133-1951 (Abril), que habiendo tenido que intervenir un caso de prostatectomía retropúbica en el cual el trígono vesical estaba endurecido e invadido por un proceso neoplásico, se vieron en la necesidad de seccionar no únicamente la cápsula prostática, sino el cuello de la vejiga en una extensión suficiente para observar el trígono y los orificios ureterales, y hacer el tratamiento que juzgaron pertinente. Dada la facilidad y los buenos resultados de esta técnica, decidieron practicarla en cien casos en los cuales encontraron todos los tipos de tumores prostáticos, logrando mayor ventaja cuando existía un lóbulo medio o subtrigonal que era necesario extirpar, haciéndose esto con toda facilidad y bajo el control de la vista.

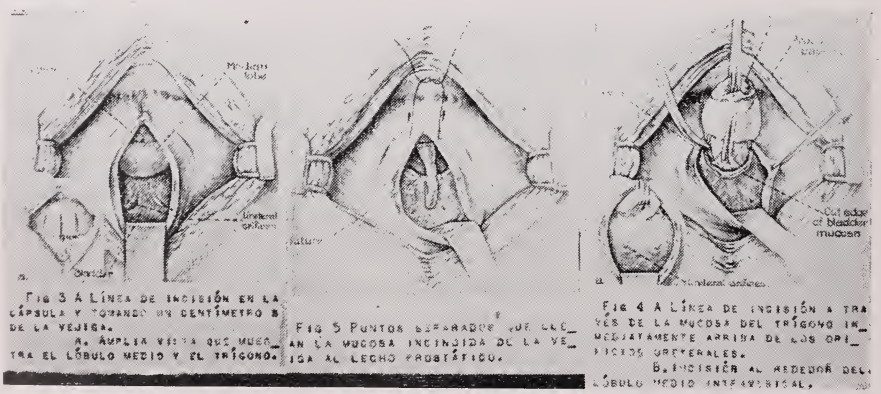


FIG 3 A LÍNEA DE INCISIÓN EN LA CÁPSULA Y TOMANDO UN CENTÍMETRO B DE LA VEJIGA.
A. AMPLIA VISTA QUE MUESTRA EL LÓBULO MEDIO Y EL TRÍGONO.

FIG 5 PUNTOS SEPARADOS QUE EXPONEN LA MUCOSA INCINDIDA DE LA VEJIGA AL LECHO PROSTÁTICO.

FIG 4 A LÍNEA DE INCISIÓN A TRAVÉS DE LA MUCOSA DEL TRÍGONO INMEDIATAMENTE ARRIBA DE LOS ORIFICIOS URETERALES.
B. INCISIÓN AL REDEDOR DEL LÓBULO MEDIO INTRAVESICAL.

(Tomado de Hand)

Dichos autores han encontrado también, que no es necesario la cistoscopía preoperatoria. A ellos les basta la sección longitudinal de la cápsula, y una sección de un centímetro sobre el cuello

de la vejiga, para poder practicar la exploración correctamente de la cavidad y cuello vesicales.

Algunos otros autores, deseando más amplitud en la exploración, seccionan ampliamente la cápsula y la pared anterior de la vejiga, colocando dentro de esta brecha unos separadores automáticos que permitan la exploración y la ejecución de la operación con toda facilidad.

Todos estos últimos urólogos que preconizan la vía cérvico-retropúbica, están satisfechos de su procedimiento, reforzado por los buenos resultados de sus copiosas estadísticas.

CONCLUSIONES

Por lo anteriormente expuesto, pienso que las técnicas de adenomectomías cérvico-retropúbicas mencionadas, y en particular en la forma que la he verificado y estudiado, presenta las siguientes ventajas al método del Dr. Terence Millin:

I.—Poder con toda facilidad, extirpar cualquier tipo de tumor prostático; grande, pequeño, adherido o degenerado.

II.—Lesión mínima o nula de los plexos venosos pericapsulares; no hay hemorragia o es muy escasa.

III.—Por la menor profundidad a que el urólogo trabaja, los tumores son abordados con más facilidad, y principalmente cuando crecen dentro de la vejiga.

IV.—Cuando existe además de los lóbulos laterales un lóbulo medio, su extirpación es sumamente fácil, y se hace con todo cuidado una reconstrucción del piso uretral.

V.—Por la separación de los bordes de la herida vesical, se obtiene un campo operatorio más amplio y perfectamente visible del trígono y cavidad vesical.

VI.—La sección del cuello realizada en la forma indicada, no trastorna el funcionamiento de su musculatura, ni hay estenosis post-operatorias.

VII.—No es necesaria la sección en "V" de la mucosa del cuello aconsejada por Millin.

VIII.—Mayor facilidad de la separación de las masas tumorales de la cápsula; principalmente cuando hay adherencias por procesos inflamatorios o transformación maligna de estos tumores.

IX.—En el postoperatorio no se produce fístula hipogástrica; apoyada por la observación de otros autores.

X.—La suspensión de la cistoscopía previa.

XI.—El uso de la sonda de Pezzer o Nelaton en la forma indicada, favorece la canalización y evita las hemorragias secundarias.

XII.—La altura de la incisión, aleja más las manipulaciones que pueden lesionar la sínfisis púbica, siendo así menos probable la presencia de osteitis. En los enfermos estudiados, no se presentó tan terrible complicación.

RESUMEN

I.—Se propone un método de extirpación de adenomas prostáticos por medio de la sección transversal de cápsula y cuello vesical por la vía retropúbica. (Técnica cistocérvico-retropúbica).

II.—Se mencionan generalidades e historia de la cirugía próstatoretropúbica.

III.—Se estudian cincuenta casos; se mencionan las exploraciones preferidas y el estudio suscinto del preoperatorio.

IV.—Se empleó de preferencia raquianestesia a dosis de 8 a 10 cgs. de Procaína Abbott, y sólo en dos se usó como complemento el Pentothal.

V.—Se describe la técnica empleada con sección transversal en el límite entre pared anterior del cuello de la vejiga y cápsula prostática; se refieren otros métodos con sección longitudinal de cápsula prostática y cuello vesical.

VI.—Se resumen las principales ventajas de la técnica empleada en comparación con el método de Millin y las otras técnicas cérvico-retropúbicas.

BIBLIOGRAFIA

1. Alboulker P. Une nouvelle technique de Prostatectomie, la Prostatectomie Retropubienne de Terence Millin. Prese Medical, 20: 283-1946.

2. Alboulker P. Prostatectomie Retropubienne. Presse Medical, 54; 604-1946.

3. Burns Edgar. Retropubic Prostatectomy. N. Orl. Med. and Surg. Jour. 101: 367-1949.

4. Burns E. Retropubic Prostatectomy. J. Urol. 64: 367-1950.

5 Beneventi A. Francis & Novack J. Gustav. Distribution of the Blood vessels of the prostat gland and urinary blader: Application to retropubic prostatectomy. Jo. Urol. 62:660-1949.

6. Bacon S. K. Surgical technique of retropubic prostatectomy-Trans. South central sect. A. V. A. pp. 77-82. 1947.

7. Bacon S. K. Retropubic Prostatectomy report of 102 cases. J. Urol. 61: 72. 1949.

8. Bacon S. K. Retropubic prostatectomy, early technical difficulties. Report of removal a Giant prostate. J. Urol. 61-571 (1949).

9. Cibert P. and Collen G. The prostatectomy of Millin in infected cases. J. Urol. 53: 257 (1946-47).

10. Couvelaire R. Note preliminaire sur la technique et les indications de l'adenomectomie prostatique, pour vois sus et retropubienne, extra vesicale. J. d' Urol. 53: 98-1946.

11. Gosse Clarence L. The role of the retropubic operation in selective prostatic surgery. Canad. Med. Ass. Jour. 61: 138-1949.

12. Gouverneur et Albouker P. Reflections sur la prostatectomie extra vesicale retropubienne de T. Millin. J. Urol. 53-105. 1946.

13. Harrison J. H. and E. F. Poutasse. Choice of Operative Approach for Prostatectomy. J. Urol. 63: 132-1950.
14. Jacobs L. C. & Gasper E. J. Prevesical Prostatectomy Urol. & Cutan. Rev. 37: 729 (1933).
15. Lowsley S. O. and Gentile A. Retropubic Prostatectomy. Jour. Urol. 59-281-1948.
16. Millin T. Retropubic Prostatectomy; a new extravesical technique. Lancet 2:693 - 1945.
17. Millin T. Retropubic Prostatectomy. Jour. Urol. 59-267-1948.
18. Moore T. Experiences on Retropubic Prostatectomy - JU. 61. 1949.
19. Moore T. D. Retropubic prostatectomy. J. Urol. 65: 865. 1951.
20. Nemmelaar J. Total prostatovesiculectomy. Retropubic aproach.
21. Pierraccini P. Modification of the Millin Technique U&C. Rev. 1948.
22. Pressman D. & Rolnick H. D. Retropubic Prostatectomy JU. 61-59. 1949.
23. Rivas A. L. The best method of Prostatectomy. JU. 59: 491-1948.
24. Stocwell A. L. Prostatic Surgery. J. Urol. 64:341, 1950.
25. Schwartz H. B. Retropubic, Extra-Urethral and Extravesical Prostatectomy. J. Urol. 65:416-1951.
26. Uteau R. P. and Leroy R. L. Various Techniques of prostatectomy for hipertrophie of prostate. Uroi &. Cutan. Rev. 40: 642:1936.
27. Weinstock H. Experiences with retropubical prostatectomy. Report of 52 cases. Penn. Med. Jour. 52: 1481. 1949.
28. Wilhelm F. S. & Sehoym Z. F. Postoperative stenosis and periostitis pubis following Retropubic Prostatectomy. JU. 66-660. 1949. (23).

SURGICAL MANAGEMENT OF HYPOSPADIAS

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Hypospadias is a condition characterized by a ventral curvature of the penis produced by bands of fibrous tissue occupying the position of the undeveloped or absent corpus spongiosum and by an ectopic opening of the urethra. The ectopic meatus may be at any point from the perineum to a position just back of its normal location in the glans penis. In 70 per cent of cases, it is located at or just behind the coronal sulcus, and no treatment is required except in the occasional case in which the meatus may be sufficiently stenotic to require dilation or meatotomy. The remaining 30 per cent present two problems in treatment: 1) correction of the penile deformity by removal of all constricting bands that produce the ventral curvature and 2) construction of the urethra at a later date.

It is generally believed that in those patients seen during infancy the straightening operation should be done when the child is about two years of age. It has been suggested that by doing the straightening operation at an early age the corpora cavernosa are afforded a better opportunity to develop. We are in entire agreement with those who advocate performance of the straightening operation early. On the other hand, our experience has led us to believe that the bands which produce the ventral deformity interfere little with development of the corpora cavernosa. During the past four years we have done the straightening operation on 3 patients who were 14, 19, and 32 years of age, respectively, and in each case the corpora cavernosa appeared fully developed. The importance of completely correcting the deformity should be emphasized, for unless this is successfully done, sexual function will be impaired. Most of the fibrous bands producing the deformity lie in the midline, but some are located laterally and some in the intracavernous septum.

THE STRAIGHTENING OPERATION

There are two methods commonly used to straighten the penis; one method utilizes Heineke-Mikulicz's principle, first described by Duplay in 1874. A transverse incision is made across the ven-

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tral surface of the penis just back of the coronal sulcus and extended into the prepuce on either side. The skin with its subcutaneous tissue is stripped back toward the ectopic meatus, and by making traction on the penis, the operator is able to identify and easily remove the constricting bands. The importance of removing the bands that extend into the intracavernous septum should be emphasized, as otherwise the deformity will not be corrected. Injury to the corpora cavernosa is to be avoided. The transverse incision is closed in a longitudinal fashion.

The other method, which we have been using with increasing frequency, was first described by Edmunds and more recently modified by Nesbit. The skin of the penis is incised just behind the glans and retracted backward, and the fibrous constricting bands on the ventral surface of the penis are removed. The prepuce is buttonholed, and the redundant portion of the skin is transferred to cover the defect on the ventral surface of the penis. Attachment of the penis to the abdomen is unnecessary if all the fibrous bands have been removed. The urinary stream is not diverted in connection with the straightening operation.

CONSTRUCTION OF THE URETHRA

Construction of the urethra should be delayed until the child is 4 or 5 years of age. A longer delay may be indicated in those with an unusually small penis. Regardless of the age at which these patients are seen, we believe that at least a year should elapse between the straightening operation and construction of the urethra. It is apparent that approximately this amount of time is necessary for the scar tissue incident to the straightening operation to become soft and elastic and for the blood supply in this area to gain its maximum development. Failures will be more frequently encountered in those cases in which an earlier attempt at repair is made.

Diversion of the urinary stream is essential as a preliminary to construction of the urethra. This may be done by either suprapubic cystostomy or perineal urethrostomy. The method of performing perineal urethrostomies, as described by Cecil and Denis Browne, is both simple and satisfactory. In the occasional case of perineal hypospadias, there may be insufficient room between the inferior layer of the triangular ligament and the ectopic meatus to accommodate a perineal urethrostomy, in which case the urinary stream will have to be diverted by suprapubic cystostomy. Perineal urethrostomy, when possible, is preferable, first, because of the ease with which it is performed and, secondly, because of

the rapidity with which the perineal incision closes after the urethrostomy has served its purpose.

Numerous methods are described in the literature by which the urethra may be constructed. Analysis of the many modifications of original methods shows that they are all based upon five general principles. The first of these, originally described by Nove-Jusserand, makes use of free grafts taken from extragenital sources. Split thickness skin grafts are applied by a tunneling technic. The ureter, appendix, veins, vaginal mucosa and bladder mucosa have all been substituted for skin. A scientific exhibit by Victor Marshall at the recent meeting of the American Urological Association indicated good results obtained by the use of bladder mucosa. The precision necessary in preparing the graft, the difficulty of its insertion and fixation, the maintenance of uniform pressure on the graft in apposition with the side walls of the tunnel, and the accumulation of small blood clots may contribute to failure in patients treated by this method.

The second principle involves the stretching of the freed-up urethra to the end of the penis, according to the method of Von Hacker and Beck. It is obvious that this method would be limited to minor degrees of the deformity and should be discarded in favor of methods that more completely fulfill the requirements for correction.

The third principle involves the use of pedicle grafts from the prepuce or penis to construct the urethra and the use of penile skin to cover the defect. There are several modifications of this principle.

(a) **Cecil's adaptation of Thiersch-Duplay's principle** for both penoscrotal hypospadias and perineal hypospadias: The operation for penoscrotal hypospadias is completed in one stage, the urinary stream being diverted by perineal urethrostomy. In the case of perineal hypospadias, however, the urethra is constructed down to within one centimeter of the ectopic meatus. After healing is complete, the urinary stream is diverted by suprapubic cystostomy and the perineal opening is closed according to the method of Duplay. The flaps have a broad base and an adequate blood supply. The suture line is staggered to decrease the incidence of fistulas, which occur with considerable frequency. The new meatus is at the level of the coronal sulcus, and excellent results may be obtained by this method.

(b) **A tube graft method described by Rochet:** The tube is made from scrotal skin with its attached base proximal to the ectopic meatus. The tube is pulled through a prepared tunnel. The new urethra has the objection of being constructed of hair bearing skin.

(c) **D. M. Davis' method**, in which a tube graft is made from the skin on the dorsum of the penis: A tunnel is prepared through the glans, through which the tube is drawn to the ventral surface of the penis and attached to the freed up end of the ectopic meatus. Healing is usually complete by the end of two weeks, at which time the dorsal end of the tube may be freed. This method is not applicable to the more severe grades of hypospadias. Moreover, tunnels that are made through the glans penis have a tendency to stricture formation and periodic dilations are usually required.

(d) **Ombredonne's method** referred to as a sac operation: The new urethra is constructed by gathering skin proximal and lateral to the ectopic meatus by means of a pursestring suture. The defect is then covered with the prepuce, which is buttonholed and brought over the glans. This method is applicable only to distal penile hypospadias.

The method based on the fourth principle was first described by Bidder in 1892 and modified by Bucknall in 1907. It utilizes scrotal and penile pedicle flaps to construct the urethra. Parallel incisions are made on the ventral surface of the penis and extended for an equal distance on the scrotum. The flaps are dissected up for a distance laterally so that they may be sutured. After the wound has entirely healed, the penis is liberated from the scrotum, carrying with it the newly formed urethra. The defect is covered with adjacent scrotal skin. This method is applicable only to penoscrotal hypospadias and the floor of the urethra is made with hair bearing skin. It may be utilized after other methods of repair have failed.

The fifth principle is that utilized by Dennis Browne. His method is based upon the principle of utilization of a strip of intact skin, which acts as a nucleus, from which epithelium grows to line the new urethra. After the straightening operation it is a one stage procedure involving several distinct steps. The first step is diversion of the urinary stream by perineal urethrostomy which can be accomplished in all cases except the more severe grades of perineal hypospadias. A Malecot catheter is inserted to the bladder on a sound; the sound is partially withdrawn and reversed so that it points in the perineum. An incision is then made with a cutting current from the electrosurgical unit, exposing the catheter. Its proximal end is held with a hemostat while the distal end is drown through the perineal opening. It is adjusted and tested with an irrigating syringe to be certain that its position is such that the bladder will be kept empty. Its position is maintained by fixation sutures.

The second step consists of making two parallel incisions on

the ventral surface of the penis, which are brought together immediately behind the ectopic meatus. These incisions outline the strip of intact skin which acts as a nucleus, from which epithelium grows to line the tube. The width of the skin strip will vary according to the size of the penis. At the present time we are making the width of the strip approximately one and one-half to two times the diameter of the average urethra for the particular age group. This will prevent stricture of the newly formed urethra. Experience has shown that if the newly formed canal is stenosed, it does not lend itself well to dilatation. A triangular area of epithelium is then removed from either side of the glans penis.

The third step is dissection of full thickness flaps for a sufficient distance laterally to allow their approximation over the strip of intact skin without tension. Bleeding during this stage of the operation is chiefly oozing and only the obvious bleeders need be ligated.

The fourth step consists in making a complete dorsal slit, which extends from the coronal sulcus to the base of the penis. The purpose of this relaxing incision is to prevent the possibility of tension upon the flaps during closure and to guard against any tension that might develop postoperatively as the results of edema.

The edges of this incision are separated widely, and in some cases it may be necessary to extend the proximal end of the incision beyond the base of the penis in order to prevent the most likely point of tension at the penoscrotal junction. The denuded area covers over with epithelium in a surprisingly short time, usually by the end of the second postoperative week.

The next step is approximation of the lateral flaps. This is accomplished by a double layer of sutures; the first is through-and-through silkworm gut or silver wire, placed one-half inch away from the cut margin of the skin flap. The sutures are adjusted and held in place by crushed shot which are so placed that there is about one-eighth of an inch play between the two margins of the flap. The object of this is to allow for edema, in the postoperative period, which might prevent adequate circulation to the flaps and contribute to the development of a fistula, which is most likely to occur at the penoscrotal junction. The distal ends of the flaps are brought forward and attached to the glans penis so that the raw undersurface of the flaps is in apposition with the denuded area on either side of the glans penis, which places the meatus at about the level of the coronal sulcus. The outer layer of suture is of the finest possible catgut and so placed to prevent inversion of the skin margins. Two stab wounds are then made in the scrotum posterior and lateral to the posterior angle of the wound, and the tissues are undermined to connect with the undersurface of

the flaps. This permits the escape of any serum that may accumulate under the flaps. This permits the escape of any serum that may accumulate under the flaps. No rubber tissue dam or other drainage material is used. No dressing is required. The perineal urethrostomy tube is attached to a drainage bottle and the currently available antibiotics are given for five to seven days. The sutures are removed as soon as healing is complete, usually by the end of the first postoperative week. If there is any apparent infection around any of the tension sutures, these should be removed promptly; otherwise, epithelium will grow along the tract in a remarkably short time and a fistula will result. The perineal urethrostomy may be removed at the end of the second postoperative week, and the opening will close spontaneously within twenty-four to forty-eight hours.

We have used this method exclusively during the past four years. We have encountered complications in only two cases. In one case, an attempt was made to construct the urethra only three months after the straightening procedure, and a fistula developed at the penoscrotal junction, requiring secondary closure. The second case was one in which gross infection developed postoperatively. We felt certain the entire wound would break down; two of the shots sloughed through the flaps and were extracted from the newly formed urethra, but to our surprise the infection cleared up and the wound healed perfectly with only two small fistulas which were subsequently closed.

From our experience, we believe that this method will stand more complications in the postoperative period without failure than any other plastic operation upon the penis. It is applicable to all degrees of the deformity, is done in one stage, and usually requires not more than two weeks' hospitalization.

THE TREATMENT OF PEYRONIE'S DISEASE WITH ACTH

PRELIMINARY REPORT

LUIS A. SANJURJO, M.D.*

A few hundred years ago Franciscura de la Peyronie described in his mémoires a disease that bears his name. It is also indexed as chronic penitis, chronic cavernositis and induration penis among others.

The maladie consists of fibrous plaques that develop on the sheath of the corpora cavernosa or on the septum, never involve the corpora cavernosa or the urethra and are known to undergo cartilaginous or osseus changes on rare occasions. The plaques may be single or multiple and vary in size, attaining in some instances one or more centimeters. In some patients these plaques are slow growing, in others a large size is rapidly attained whilst occasionally they are extensive from the early beginning.

As a general rule the plaques remain asymptomatic for months or years if they are small or single, but give rise to symptoms when they attain one or more centimeters in length. The symptoms consist of pain on the phallus during erections or at intercourse, but the most conspicuous and alarming sign is a curvature of the penis which prompts the patients to seak medical advice.

The concavity of the curvature develops towards the side of the plaque, this being explained by the fact that the rigidity of the plaque prevents the sheath from stretching fully during erections. When the angulation does not surpass a 10 or 20º angle, sexual relations as a rule are not impeded, however, if the curvature is more pronounced intromission or sexual relations are difficult or impossible.

During erections several curvatures may be observed on the same patient, to the left, to the right or upwards depending on the location, size and the number of plaques present. The erect penis then takes a bizarre shape from which the French coined the term "corkscrew penis".

Peyronie's disease has been observed at all ages, my youngest patient being a 24 years old American Army officer during the last war. The disease has been found with extreme frequency among patients suffering from Dupuytren contractures. There seems to be a certain etiological relation common to both condi-

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tions. Polkey found 22 cases of Dupuytren contractures among 549 patients suffering from Peyronie's disease.

Several theories have been advanced to explain the formation of these plaques among which sexual abstinence, ungratified sexual relations, syphilis and minimal trauma during coitus are mentioned, however, the question remains unsettled and Peyronie's disease continues to be a misterious medical condition of unknown etiology.

Patients have been submitted to various treatments, radium, X-ray radiation, diathermy, fibrolysins, Vitamin E and surgical excision of the plaques.

Students of the disease claim isolated satisfactory results with one or another treatment, but none have reported on a large series of patients proven cured by any one particular form of treatment. In view of the fact that these plaques occasionally disappear spontaneously, one is lead to believe that many of the treated patients on whom a cure was obtained, may represent isolated instances of spontaneous cures.

The idea of employing ACTH in chronic penitis occurred to us in April 1951 while treating a patient with early Peyronie's disease, the condition having developed in a few days.

Case 1 — Mr. C. C. white male - age 40 - #5065 was referred to us by one of our very best friends with a diagnosis of a thrombosis of the dorsal vein of the penis. The patient claimed that around April 8, 1951 he developed without apparent cause, spontaneous pain and swelling of the dorsum of the penis. No chills, fever or general malaise were noted and no past history related to his urogenital tract was recorded. On examination there was induration of the dorsal vein of the penis, mild edema and redness of the skin, the genitalia were otherwise normal. Bed rest and hot wet dressings were recommended and 3 grams of tricombisul in divided doses prescribed for 10 days. He was seen again on April 17, 1951 at which time the inflammation of the dorsal vein had greatly subsided but we discovered at the base of the penis a definite induration of the sheath of the corpora resembling a Peyronie's plaque. When seen again on April 24, 1952 an unquestionable fibrous plaque had formed; it measured 1 x ½ inch and seemed to be extending laterally. At this time the patient informed us that the night before he had sexual relations which were very painful and was surprised to see that during the erection the penis curved upwards; he located the angle of the curvature at the site of the plaque. Being an early plaque we believed that ACTH could prevent further fibrosis or that perhaps it could favor reabsorption of the plaque.

On April 24, 1951 ACTH treatment was began and for two weeks the patient received 20 mgms twice daily. When he returned

for follow up on May 15, the pain had completely subsided, the curvature was less conspicuous and the plaque was beyond question smaller and softer. On May 26, 1951 the plaque was barely palpable, the curvature had totally subsided and the patient was able to have normal erections and sexual relations.

Impressed by the satisfactory results obtained we decided to recall some of our old patients for whom we had done so little, some responded and visited us. We frankly explained to them the favorable results obtained on our first patient and adviced ACTH therapy without making any promise or commitments. Some agreed to receive the drug.

Case 2. — J. G. #3728 - a 62 years old white male patient on whom we had performed a suprapubic prostatectomy in March 8, 1950, came to see us in October 5, 1950 complaining of painful erections and inability to have sexual relations because his penis was bent in different directions. His difficulties began in August 1950 when he developed pain on the penis during erections discovering on palpation some hard masses on the dorsum of the organ. These masses were barely palpable when the organ was flacid but were prominent when erect. Gradually the penis began to develop an upward curvature, later on it also bent to the left near the base and during the latter part of September he noticed that the tip of the penis was bending to the right.

Upon examination three plaques were found on the sheath of the corpora; the one on the left side of the penis was found to measure 1 x 1 cm; the second on the mid of the dorsum was 1½ x ¾ cm and a small one on the right side of the distal segment of the sheath measured 1/2 x 1/2 cm. The plaques were soft but painful when pressed upon. He was referred for X-ray therapy but we did not hear from him until he was called by us early in November 1951. The plaques had remained unchanged, the pain had persisted and the curvatures did not permit sexual relations. He was adviced to have ACTH therapy which he accepted.

On the 5th day of treatment the patient claimed that erections were painless. When seen again on March 4, 1952, five months following treatment, the plaques had completely disappeared and at the site of the dorsal plaque there was bare evidence of induration. The patient claimed that his penis was almost straight during erections and that occasionally there was a minimal dorsal bent. The results obtained had made him happy and contemplated to remarry in a near future.

Case 3 — F. O. V. - #3783 a white male age 50 was referred to us in February 16, 1950. In July 1947 he was submitted to a sur-

gical operation for a ventral hernia. Thirty five days following the surgical intervention he was greatly handicapped by moderate pain on the penile shaft during sexual relations. He discovered then a small hard nodule on the dorsum near the base of the penis. Gradually this nodule grew larger and in its vicinity several small ones developed. Within several weeks an upward curvature of the penis became evident, hindering sexual relations. Upon examination eight small plaques were found at the base of the penis extending from the dorsum to the lateral aspects and to the middle third of the organ. These plaques were hard and ranged from 3 to 5 mm in diameter.

On the dorsum near the distal third of the penis there was a plaque 2 x 1-1/2 cm which extended fully through the septum into the posterior aspect of the sheath where it faned out to left and to the right over the body of the shaft. The posterior plaque was 2½ cm wide and partially encircled the penis.

It was explained to the patient that there was very little to offer and without great encouragement we suggested diathermy, X-ray and radium therapy.

We recalled this patient in Nov. 28, 1951. He stated that he had adapted himself to the idea of chastity and had failed to follow our initial advice. Examination this time revealed that the large plaque on the distal third had remained unchanged whilst the small plaques near the base of the phallus had become confluent. He accepted ACTH therapy and was given 25 mgm twice daily for two weeks. When seen again in Dec. 28, 1951 it was found that the distal plaque was much smaller having attained the size of a small pea, the posterior sheath and septum was free of induration. The plaque at the base of the penis was soft, elastic and the patient was able to have sexual relations without pain or curvature. He has continued to do very well.

Case 4 — L. R. M. - #5252 a white male age 50 was seen by us on Nov. 29, 1951. In June of the same year he accidentally discovered an induration on the dorsum of the phallus to which he paid no attention. During a routine physical examination a nodule was found on the penis and the patient was instructed to consult us. The patient had normal erections without pain or incurvation of the penis. Upon examination a 1 x 3/4 cm x 3 mm thick fibrous plaque was palpable on the mid dorsum of the penis. No pain was elicited upon examination. ACTH was recommended and one course given. The patient failed to return for follow up but 2 months later he called by phone and stated that the plaque had totally disappeared and vehemently expressed his gratitude.

Case 5 — Mr. A. B. age 48 - white male was also referred

to us on Feb. 8, 1952, complaining of painful erections and a 30º angulation of his phallus. He could place the onset of his complaint to mid Nov. 1951. It is interesting to note that in 1948 his younger brother developed a similar condition. Upon examination a large 2 inch plaque was palpated on the dorsum of the penis extending from the sulcus backwards; the borders were very irregular and sharp at the level of the sulcus and there was moderate tenderness upon pressure near the distal segment of the plaque. Treatment with ACTH was adviced.

He was seen on March 11, 1952 and April 29, 1952. The pain during erections had disappeared, there was slight improvement of the curvature but the size and consistency of the plaque had remained unchanged. A second course of ACTH was adviced but the patient has not returned since.

Case 6 — Mr. M. L. #5310 - age 32 was referred to us for a hard nodule on the penis. This patient has been suffering for several years from multiple sclerosis and had received cortisone and alphatocopherols on various occasions.

In Nov. 1951 he discovered a hard nodule on his penis but there was no pain during erection or coitus. Early in Feb. 1952 he detected a dorsal curvature of the penis which gradually attained a 20º angle and since then mild or moderate pain have been present during erections and at intercourse.

ACTH was prescribed and one full course given. This patient was seen on July 16, 1952. There is no pain during erections or at intercourse and the plaque is barely palpable. The curvature persists.

DISCUSSION

The very few cases of Peyronie's disease treated with ACTH have been improved apparently. The follow up is too short to draw final conclusions, but we hope to give a final report in the future. Until then we shall continue to employ this drug in patients similarly afflicted in order to be able to present a more accurate statistical data.

All the patients tolerated the drug well and no reactions or ill effects were recorded.

In all the patients the immediate subsidence of pain during erections was noted shortly after treatment was began. In those in whom little local improvement was observed there was no recurrence of pain.

PEYRONIE'S DISEASES

BEFORE ACTH

PATIENTS	NUMBER OF PLAQUES	PAINFUL ERECTIONS	CURVATURE	ACTH mgms DAILY
1	1	++	++	40 mgm
2	3	++	++++	50 mgm
3	9	++	++++	50 mgm
4	1	0	0	50 mgm
5	1	++	++	50 mgm
6	1	+	+	50 mgm

PEYRONIE'S DISEASES

AFTER ACTH

PATIENTS	CURVATURE	PAINFUL ERECTIONS	RESULTS
1	0	0	Good
2	0	0	Good
3	0	0	Good
4	—	—	Good
5	less	0	Fair
6	+	0	Fair

THE USE OF BALL TRACTION IN THE REPAIR OF VESICO-VAGINAL FISTULA RESULTING FROM GYNECOLOGIC TRAUMA

PABLO G. CURBELO, M.D.

Santurce, P. R.

Vesico-vaginal fistulae resulting from gynecologic trauma pre-are produced when clamps are applied to the vagina during a total hysterectomy, the bladder walls being inadvertendly caught in the jaws of the clamps. These fistulae are located in the midline, and high in the vaginal vault; hence the difficulty in their vaginal approach. Furthermore, since the uterus has been removed one is not able to apply traction on the cervix to bring the fistula down. Therefore, the only choice left is the suprapubic approach, ordinarily much more difficult, but we are convinced that with the use of the ball tractor the procedure becomes greatly simplified.

The patient must be properly prepared both physically as well as psychologically for the procedure. Ample time must elapse between onset and repair, at least three months, in order that proper vascularization of its edges may have taken place and the inflammatory reaction may have completely subsided.

The urinary infection as well as the vulvar and vaginal excoriation must be reduced to a minimum by the adequate use of antibiotics, sulfonamides, acidification of the urine. Blood transfusions and vitamins seem to be of much help. A complete urological examination is carried out. This study includes intravenous pyelography, cystoscopy, wherein the size, exact location of the fistula and its relation to ureteral orifices is determined; a combined vaginal examination with the cystoscope in situ serves very well in determining the exact size of the fistulous opening.

Description of Operative Procedure. We use the ball tractor by Fagerstrom. It consists of a small rubber ball used by children in playing the game of Jacks. A hole is drilled through the ball and a heavy silk or nylon thread is attached to it by means of a split shot or even by ordinary buttons.

After the patient is anesthetized the vaginal and abdominal walls are surgically prepared.

Through a long mid-line incision the bladder is exposed, incised, and the fistula localized. A flexible grasping forceps is passed through the fistula into the vagina and is guided outside where the end of the tractor suture is seized and brought back into the incision. By pulling on the tractor the fistula is raised

to a readily accessible level without unduly traumatizing its margins.

The indurated portions to be excised are marked out with a scalpel, following which they are excised.

The line of cleavage between bladder and vagina is now clearly observed. With a pair of angular scissors both structures are widely separated from each other.

The margins of the vaginal defect are brought together with fine chromic interrupted sutures mounted on atraumatic needles, the mucosa is not included. The bladder defect is similarly closed up including the vesical mucosa. The tractor suture is cut off and the ball tractor is removed per vaginam. An 18 F. Foley catheter is introduced into the bladder via the urethra. The bladder and abdominal walls are closed around a Pezzer catheter.

Post Operative Management. The most essential step in the post operative care is to keep both catheters draining freely all the time and in our hands the best way to accomplish it is to use a continuous irrigation system consisting of an irrigation can provided with a Murphy drip.

The patient may adopt any comfortable position in bed.

Urinary antiseptics are continued from the pre-operative period. The supra-pubic catheter is removed on the twelfth day; the urethral catheter, three or four days later.

Discussion. The ball tractor offers the following advantages over other types of instruments.

It can easily be obtained. It is non traumatic to the fistulous edges. The traction thread permits the sutures to be placed close together. The rubber ball serves as a solid base upon which the edges of the fistula can be easily circumcised. And last but not least it allows the surgeon to work almost at the level of the incision instead of in a deep cavity.

BENIGN HYPERTROPHY OF THE PROSTATE

MANUEL F. ALSINA-CAPO, M.D.

Ponce, P. R.

Benign hypertrophy is a disease of the prostate of unknown etiology. It is rare before the age of 50, occurring with the greatest frequency between 55 and 70 years of age. It is characterized pathologically by an enlargement of the gland, resulting in obstruction at the vesical neck with secondary changes in the bladder and higher urinary tract; clinically, by disturbances of urination, namely, frequency, difficulty and often painful urination with attacks of complete retention. The disease runs a progressive course that ends fatally unless relieved by appropiate surgical measures.

The terms benign hypertrophy, senile enlargement, adenoma and hyperplasia have been utilized to describe this condition. However there is no agreement as to the proper term to be used.

The incidence of the disease is rare at the age of 70. Gout, rheumatism, alcoholism, gonorrhea and syphilis are no longer considered as playing a role in the development of hypertrophy, but whether or not heredity plays a role is open to question. Theories have been advanced from time to time to explain the causes of hypertrophy.

Arteriosclerotic Theories Promulgated by the French School of Urologists — Inflammatory theory, neoplastic theory and the Endocrine Theory.

Virchou stated in regard to the neoplastic theory "That this process begins diffusely or in multiple focci, it is associated with periglandular fibrosis, and the process is self-limited. The structure is not that of a neoplasm and when true adenoma of the prostate arises in the course of hypertrophy it presents a very different structure. Deming states that prostatic hypertrophy is a neoplastic, hyperplastic rather than a hypertrophic lesion and he submits evidence in support of the hypothesis that it is derived from an embryologic anlage. Young states that the process is one of hyperplasia.

In regard to the endocrine theory with the recent advances in the field of endocrinology, renewed interest in the cause of enlargement of the prostate has taken place. Many workers in this field are attempting to explain the condition on the basis of some disturbance in the endocrine system. Before the days of modern endocrinology, many of the older clinicians tried to explain the cause of enlargement on the basis of the loss of testicular function. In view of the fact that hypertrophy occurs at a time of life when

the function of the testicles is on the wane, it was believed that the hypertrophy was a compensatory function for the diminishing sexual function. A number of pertinent factors can be brought forth against this theory. Hypertrophy at times is seen in relatively young men in whom there is no evidence of diminished sexual function. Harn and Orator quoted by von Blum and Rubritius, report two cases of hypertrophy in which the patients had lost both testicles many years before and, in spite of the absence of the testes hypertrophy developed.

Pathology — The size of the hypertrophied prostate may vary within wide limits. The size has nothing to do with the severity of the symptoms. A very large prostate that has been present for many years may cause only mild disturbances, whereas a very small adenomatous nodule located at the internal orifice may produce very severe symptoms.

Types of Enlargement — As a result of their extensive anatomic studies of prostatic hypertrophy, Tendler and Zuckerkandl have divided hypertrophy into two groups, namely intravesical and subvesical.

Intravesical Type — In this type the internal urethral orifice is greatly changed both in size and position. The size of the part of the prostate which projects into the bladder may vary from that of a small adenomatous nodule to that of an orange or even larger. Rarely is an adenomatous nodule found on the anterior margin. In some the growth extends completely around the orifice presenting a picture closely resembling the cervix uteri.

Subvesical Type — Under this type Tandler and Zuckerkandl grouped all the cases in which the hypertrophy is located below the internal sphincter. There is no intravesical growth; the base of the bladder is elevated and the internal urethral orifice unchanged.

Point of Origin — The question of the point of origin of the hypertrophy has received a good deal of consideration. The general consensus seems to be that it is in accessory glands or tubules and not in the prostate gland proper. Jores believe it takes its origin in the accessory submucous glands tubules. Others believe its origination in the rudimentary glands of the prostatic urethra. Others believe that an old formation originated in the accessory, submucous and suburethral tubules of the posterior urethra. Whether this new formation is a true adenomatous formation or a hyperplasia of the tubules is still open to question. In 1905 Motz and Perearnau stated that they believed the origin of the prostatic hypertrophy was in the central group of tubules and, further, that the prostate itself does not take part in the tumor formation but undergoes atrophy from the pressure of the new growth. As

a result of this atrophy a capsule of prostatic tissue is formed, out of which the newly formed tumor can be enucleated. Although the hypertrophic process rarely begins in the outer glands, it may do so in very rare instances. This fact may explain the cases of recurrence following complete removal of lateral lobes.

Gross Description — The shape of the hypertrophied prostate will vary with the type. The size of the enlarged prostate may vary within wide limits, very large hypertrophies weighing as much as 500 gm. having been reported. They may almost fill the bladder cavity. There is no relation between the size of the gland and the symptoms. The enlargement is generally uniform although one lobe may be larger than the other. The surface is generally smooth and surrounded by a firm capsule and the consistency is elastic. Protruding above the cut surface are small and large adenomatous nodules, "spheroids" which are surrounded by the connective tissue septa.

Microscopic Examination — Microscopic examination reveals the presence of epithelial hyperplasia. In some cases this is so extensive that folds and villous formations are seen in the acini. Young believes that the enormous masses which sometimes occurs could not be produced without the multiplication of acini. Microscopic changes in the stroma vary from a slight overgrowth to a great increase in the fibrous tissue. Periglandular round cell infiltration may be present. In some sections lymphoid follicles are found.

Secondary Changes Due to Obstruction — Changes in the Prostatic Urethra. As a result of the hypertrophy definite elongation of the prostatic urethra occurs, a fact recognized many years ago and utilized as an aid in diagnosis. This increase in length can readily be demonstrated by means of a catheter. Normally the prostatic urethra measures from 3 to 3.5 cm. It has been found that it had measured as much as 8 cm. and even more. The urethra may assume a right angle direction or it may assume an S-shaped course. Because of these changes in the prostatic urethra, catheterization may be rendered extremely difficult, and if metallic instruments are used serious injury may occur. The catheter may produce a tunneling of the mucous membrane and in most instances is not serious, but tunneling of the prostate itself is a much more serious matter.

Changes in the Bladder — The changes of the internal urethral orifice already have been considered. The base of the bladder is elevated and broadened giving the bladder at times the more or less pear-shaped outline frequently seen in the cystogram. The trigone is often thickened and elevated. The interureteric ligament shows marked hypertrophy. The bladder may sag behind this

point, forming a pouch or cavity sometimes called the retroprostatic pouch. As a result of the obstruction, the bladder wall undergoes gradual hypertrophy resulting in definite changes. In a small number the bladder wall is enormously thickened, the surface is smooth and the bladder capacity is reduced. This has been designated as "concentric" hypertrophy of the bladder.

In most cases of prostatic obstruction the muscle bundles of the bladder undergo early hypertrophy, showing elevations above the mucous membrane. Early in the course of the disease the elevations are delicate in character and few in number. As the disease progresses they increase in number as well as in size, and are thick and coarse. As a result of the hypertrophy and thickening, the bladder wall becomes "thinned out" between the hypertrophied muscle bundles and small pockets or cellules result.

Changes in the Kidneys and Ureters. — Dilatation of the ureters in their entire extent may be seen, especially late in the course of the disease. The wall of the ureter is generally thin, although at times it may show some hypertrophy. The hypertrophy and subsequent dilatation of the ureter (extravesically) are primarily due to the compression of the intramural part of the ureter by the hypertrophied bladder wall. Sooner or later dilatation of the kidney pelvis occurs. This soon extends to the calices so that clubbing and finally dilatation result. If the obstruction persists, complete atrophy of the kidney takes place. So long as infection does not supervene the mucous membrane is normal, but when infection is superimposed it is red and swollen. The retained urine is turbid and, finally, the presence of pus may induce pyonephrosis. Multiple abscesses of the kidney are occasionally seen in extreme cases.

Median Bar Formation — Obstruction at the neck of the bladder due to causes other than benign hypertrophy of the prostate, carcinoma or lesions of the central nervous system has been recognized for many years. There are three types of median bar formation. (1) A type of bar or dam, fibrous in type rising from or stretched across the posterior lip of the vesical orifice, formed of firm, dense sclerotic tissue whose edge is sharp and narrow, and whose lateral terminations, form an abrupt rise to the normal level course of the posterior urethra. (2) A type of fibrous bar whose projection has a tendency upward or vesicalward and seem to encroach or draw upon the vesicular trigone more than the urethral surface. (3) A type of glandular bar where the hypertrophic process is confined to the gland acini of the posterior prostatic capsule and under the sphincter muscle, so that the posterior vesical lip is raised into a thick, broad, heavy obstructing bar. There are also being put in this group cases of isolated hyper-

trophy of Albarran's subcervical glands. These rarely develop as a definite bar but rapidly assume the shape of a perfectly rounded lobe with deep lateral clefts. This condition occurs also, but rarely, in childhood, and because of its early occurrence some authorities are of the opinion that the lesion is congenital. A sclerosis at the bladder neck following prostatectomy has been known to occur and has been classified by some as fibrous bar or obstruction. This type of fibrous obstruction may better be designated as a stricture.

Symptoms — The apparent increase in the number of patients suffering from prostatic obstruction is due to several factors.

1.—Since the span of life has been increased from 40 years at the turn of the century to 64 years today, many more men reach the "prostatic" age.

2.—The education of the public that urinary symptoms are not a concomitant of old age but may be due to prostatic obstruction.

3.—The educational campaigns to "see your doctor early" and to have an annual physical examination.

4.—The possibility of relief by transurethral resection with its low mortality and morbidity.

Onset — The onset symptoms are insidious and the development slow. Once the symptoms have started they are always progressive. The gradual onset and slow progress are characteristic manifestations of this disease and should immediately focus our attention on the prostate gland. The clinical course has been divided into three stages.

1.—The stage of irritation. This stage is characterized by frequency as well as difficulty of urination.

2.—The second stage is characterized by the presence of residual urine and signifies a failure of bladder muscle to empty the bladder completely because of obstruction at the vesical orifice.

3.—The third stage is signalized by the advent of complete retention of urine.

Urinary Symptoms — Frenquency of Urination — The symptom is always present. It is one of the outstanding symptoms of prostatism. At first the frequency is so mild that the patient's attention is seldom focused in his urinary tract, but once it has developed it is always progressive so that the patient finally is obliged to void every hour.

Nocturia — Nocturnal frequency, a characteristic of prostatic obstruction is always present. At first the patient is obliged to void only once at night. As the disease progresses, he may be obliged to void as often as five or six times during the night. This symptoms in the prostatic is in contrast to that in the patient with a vesical calculus whose frequency is diurnal.

Pain — Pain is a common symptom, being present in from 75 to 85% of the cases. In some instances the sensation is described as burning during micturition and referred to the urethra. At times the pain is extremely severe, present with each micturition, and coupled with the frequency there is disturbance of sleep and rest resulting in loss of appetite and weight.

The pain may be referred to the urethra, neck of the bladder, perineum back, thighs or rectum and occasionally to the region of the kidneys.

Difficulty of urination — The patient finds it a little more difficult to start the stream and gradually is obliged to strain and press in order to pass urine.

Hesitation — The obstruction often results in great hesitation so that the patient is obliged to wait, often for a minute or two before he can star the urinary stream.

Hematuria — Hematuria is not one of the common symptoms. Bleeding at the end of urination, bright red in color and associated with straining, often causes the patient great alarm. Occasionally the hematuria is due to severe congestion or to rupture of varices around the bladder neck. Profuse hematuria well mixed with the urine should arouse one's suspicion of the presence of a tumor of the bladder or kidney or of carcinoma of the prostate. Profuse bleeding may be the result of attempts to catheterize the patient before admission to the hospital.

Recurring Attacks of Epididymitis:—Epididymitis occurs in a relatively small group of cases. In an occasional case a statement is made that the patient has had one or more attacks of epididymitis before consulting his physician.

Gastrointestinal Symptoms — In regard to gastrointestinal symptoms, as a rule do not occupy a prominent role in the symptomatology. Loss of appetite is present later in the course of the disease especially in cases complicated by severe infection. In some cases the patient is dehydrated, has a dry tongue, has lost weight and may present great emaciation. When the prostate is very large and protrudes into the rectum, it may produce a mechanical hindrance to defecation. Hemorrhoids are often present in cases with strangury and tenesmus and in this group one may occasionally see a marked prolapse of the rectum. Inguinal hernia is not uncommon where there is severe obstruction with straining, and patients are specific with regard to the date of the onset of the hernia. The possibility of the prostate being the cause of a recent hernia in a man of prostatic age should be borne in mind,

since it is important that surgical intervention be directed to the prostate instead of the hernia.

Cardiovascular Symptoms — Statistics demonstrates that approximately 35% of the patients who suffer of prostatic obstruction show evidence of heart disease even clinically, upon physical examination or in the electrocardiogram.

Urinalysis — The results of urinalysis will depend on whether or not the infection is present and also in part on the renal function. In early cases the urine may be absolutely negative.

Complications — Infection — The presence of residual urine may serve as an ideal culture medium. In addition to urinary stasis swollen and hyperemic mucous membranes as well as congestion of the prostate and seminal vesicles are present. Under these circumstances the passage of a catheter or a cystoscope may be followed by chills, fever and sweats. The temperature may reach 104º to 105ºF.

Urethritis — The urethritis is the most common complication of prostatic hypertrophy, is generally due to repeated catheterization or the presence of an indwelling catheter and has been called "catheter urethritis".

Epididymitis—Epididymitis occurs before the patient consults the urologist and some give a history of repeated attacks. It may follow the passage of catheters or a cystoscopic examination. It may develop in patients who are obliged an indwelling catheter for a long time.

Cystitis — Cystitis is the most common complication of prostatic hypertrophy. Use of a catheter is prone, sooner or later to lead to cystitis.

Diverticula — One or more diverticula with benign hypertrophy may occur. Failure to recognize the presence of a diverticulum is one of the causes of failure to relieve the patient of some of his symptoms and is responsible for the persistence of pyuria following operation.

Renal Complications — Acute, chronic and suppurative pyelonephritis.

Diagnosis — As a general rule the symptoms of prostatic obstruction are classic and a tentative diagnosis can easily be established from the history.

Rectal Examination — When hypertrophy of the prostate is suspected the simplest method of examination is the digital exploration of the prostate through the rectum.

This can be best carried out either in the knee-elbow position or with the patient bending over a chair. The size of the prostate may vary. In some cases the rectal examination may be negative. This should direct our attention to the possibility of a median bar,

a middle lobe, small intraurethral lateral lobes or a contraction of the internal urethral orifice.

Estimation of residual urine — Determination of the amount of residual urine is next in order. This must be carried out under strict antiseptic precautions, particularly in those cases in which the bladder urine is not infected.

Changes in the urethra — Is already discussed.

Differential Diagnosis — Carcinoma, Chronic prostatitis, Calculi of the prostate, Tuberculosis of the prostate, Abscess of the Prostate, Sarcoma of the prostate, Echinococcus of the prostate, Lesions of the Bladder, Tumors of the Kidney and ureter. Lesions of the central nervous system, Stricture of the urethra.

Prognosis: The prognosis with treatment is excellent. Benign hypertrophy of the prostate itself never produces death of the patient; the fatalities are due to the complications which ensue. Infection is the greatest menace and responsible for the largest numeber of deaths. Uremia often associated with infection producing the sympton complex of uremia with sepsis, is probably the next most frequent cause of death. Because of the great disturbances of sleep resulting in loss of appetite and weight, these patients are rendered susceptible to acute infections such as bronchitis and bronchopneumonia.

Profilaxis: The cause of prostatic obstruction is unknown Therefore there is no method of preventing its development.

SECCION ADMINISTRATIVA

Reunión de la Cámara de Delegados

El sábado 9 del mes en curso se celebró en nuestro domicilio la segunda reunión ordinaria de la Cámara de Delegados, habiendo asistido los siguientes miembros:

Dr. A. Oliveras Guerra	Dr. Luis R. Guzmán	Dr. Luis A. Sanjurjo
Dr. F. Hernández Morales	Dr. Pedro J. Zamora	Dr. R. Mejía Ruiz
Dr. Salvador C. Busquets	Dr. J. Basora Defilló	Dr. Jaime F. Pou
Dr. José N. Gándara	Dr. Néstor Méndez	Dr. Ricardo F. Fernández
Dr. Julio E. Colón	Dr. Guillermo Picó	Dr. José Berio

Después de la lectura del mensaje sometido por el presidente, la Cámara procedió a considerar los asuntos expuestos en el mismo y adoptó los siguientes acuerdos:

Enmiendas a la Constitución y Reglamento de la Asociación

Se acuerda autorizar al presidente para que proceda a convocar una asamblea extraordinaria de la Asociación para el domingo, 21 de septiembre, a las 2:00 de la tarde, para someter a su aprobación las enmiendas siguientes a la Constitución y el Reglamento de la Asociación:

Junta de Directores: En lo sucesivo la Junta de Directores de la Asociación quedará integrada por los siguientes funcionarios:

Un Presidente
Un Presidente electo
Un Presidente saliente
Un Secretario
Un Tesorero
Un vocal por cada distrito, que lo será el presidente del distrito

Al comentar sobre las ventajas del cambio propuesto decía el presidente en su mensaje:

"Este cambio debe hacerse por los siguientes motivos: Es una práctica ya establecida en todas las asociaciones médicas en Estados Unidos y el extranjero que el presidente ocupará dicho cargo por un período no mayor de un año. Esto tiene dos fines: primero, se le da la oportunidad a otros compañeros de gran mérito de dirigir nuestra Asociación, y segundo, no se le impone a un compañero dos años de presidencia como ha ocurrido hasta ahora.

"Al asumir las responsabilidades de la presidencia, actualmente el presidente electo ignora mucho en cuanto a los problemas existentes y el funcionamiento de nuestra agrupación. Habiendo un presidente electo que forme parte de la directiva en funciones, cuando esa persona pasa a ocupar la presidencia en propiedad está compenetrado del funcionamiento de la Asociación y al tanto de los problemas que existan, por cuanto ha tenido oportunidad de estar en contacto con ellos antes de asumir la presidencia.

"El presidente saliente viene a reemplazar al vicepresidente. Como continúa siendo miembro de la Directiva cooperará con el presidente en propiedad en nuevos problemas y puede a su vez terminar la labor por él comenzada sin tener toda la responsabilidad a su cargo. Además, ambos presidentes — el presidente electo y el presidente saliente — pueden ayudar al presidente en propiedad en sus labores representativas, sean éstas de carácter social o de otra índole, mediante delegación del presidente en propiedad."

Comité de Nominaciones: Se recomienda asimismo la creación de un Comité de Nominaciones, cuyas funciones serán las de estudiar posibles candidatos a la presidencia.

El Comité de Nominaciones hará un estudio de un número de compañeros que reunan las condiciones necesarias para desempeñar la presidencia de la Asociación Médica. Los candidatos así seleccionados serán presentados el día de la elección, pudiéndose también ese día, si fuese necesario, hacer otras nominaciones por los miembros presentes en la reunión.

Dicho Comité de Nominaciones estará integrado por las siguientes personas:

El Speaker de la Cámara de Delegados

El Presidente de la Asociación Médica

Los siete presidentes de distrito

Cuatro miembros más electos por la Cámara de Delegados en su reunión ordinaria de diciembre.

Resolución de agradecimiento al Honorable Gobernador

La Cámara aprobó el envío de una resolución al honorable Gobernador de Puerto Rico testimoniándole una vez más el agradecimiento de la clase médica puertorriqueña por haber impartido su veto al proyecto del Senado 444, y reiterándole nuestro ofrecimiento de cooperar con el gobierno en la solución de cualquier problema de carácter médico que surja en nuestro país.

Oficial de Relaciones Públicas

Se acordó por la Cámara asimismo, autorizar a esta presidencia para hacer un estudio de posibles candidatos para el cargo de Oficial de Relaciones Públicas de nuestra Asociación y someterlos a la consideración de la Cámara en su próxima reunión.

* * *

Asamblea Extraordinaria - Septiembre 21

Tal como lo dispuso la Cámara de Delegados en la antes mencionada reunión, una asamblea extraordinaria de la Asociación para el domingo, 21 de septiembre, a las 2:00 de la tarde, día en que se celebra el cincuentenario de la fundación de nuestra agrupación.

La citación oficial para esta asamblea se cursará oportunamente. Deseamos aprovechar esta ocasión, sin embargo, para suplicar a nuestros compañeros no hagan ningún otro compromiso para dicho domingo, de manera que puedan asistir a la susodicha asamblea.

En la noche de dicho día celebramos una velada en nuestro domicilio para festejar debidamente el cincuentenario de la fundación de la Asociación. Así pues, los compañeros de la Isla tendrán un doble motivo para trasladarse a San Juan en dicha ocasión.

* * *

Directorio Médico

El Secretario Ejecutivo de nuestra Asociación está trabajando activamente en la recopilación de los datos que habrán de aparecer en el Directorio Médico. Es de lamentar, sin embargo, que muchos compañeros no hayan respondido aún a las innumerables súplicas que les hemos hecho para que nos envíen los datos solicitados. Una vez más volvemos a suplicar la cooperación de todos los compañeros que aún no han devuelto su tarjeta del Directorio Médico debidamente llena.

* * *

Servicio Telefónico

El doctor Ricardo F. Fernández, presidente de la Asociación Médica del Distrito de San Juan nos avisa que el plan de Servicio Telefónico que auspiciará el distrito de San Juan, empezará a regir el día 1ro de octubre con los compañeros que han tenido la gentileza de suscribirse al mismo. El funcionamiento con carácter de permanencia de dicho plan dependerá de la cooperación que estén dispuestos a ofrecer los miembros del distrito de San Juan. Esperamos que la misma sea lo más efectiva posible.

* * *

Curso Postgraduado en Urología

El próximo curso que auspicia el Comité de Cursos Postgraduados, que preside el doctor Ramón M. Suárez, se llevará a efecto del 8 al 12 de septiembre próximo. El mismo estará a cargo del doctor R. H. Flocks, Profesor de Urología en la Universidad de Iowa, y constará de las siguientes conferencias:

Carcinoma of Prostate
Carcinoma of Bladder
Renal Tumors
Hematuria
Renal Calculi

La cuota para este curso ha sido reducida a $10.00, y esperamos que el mayor número de compañeros se aprovechen de la oportunidad de escuchar a este distinguido conferenciante tratando temas que son de interés no sólo para el urólogo, sino también para el cirujano y el médico de práctica general.

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Literatura a solicitud

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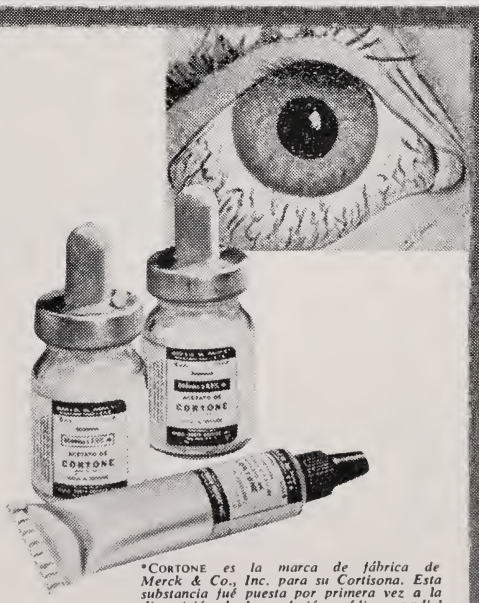
ENVASES: Tabletas de Acetato de Cortone, 25 mg. cada una, en frascos de 40; Suspensión Salina de Acetato de Cortone (para uso intramuscular), cada c.c. contiene 25 mg. frascos de 20 c.c.; Suspensión Oftálmica de Acetato de Cortone, 2,5% y 0,5% en frascos de 5 c.c.; Ungüento Oftálmico de Acetato de Cortone, 1,5% en tubos de 3,5 Gm.



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*CORTONE *es la marca de fábrica de Merck & Co., Inc. para su Cortisona. Esta substancia fué puesta por primera vez a la disposición de la profesión médica mundial por la Merck & Co., Inc.*

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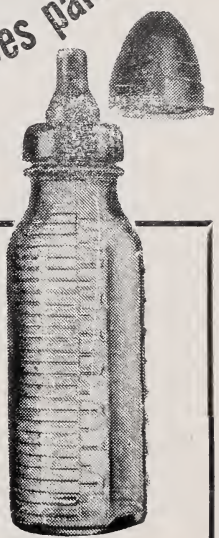

SR-50 Biberón "EVEREADY" ("Siempre Listo")—Destapónelo y está listo para alimentar al bebé. Seguro y fácil de usar.

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SR-1181 Pezón "Hospital Standard" de látex virgen puro, tres perforaciones y cuello de ranuras, para facilitar su colocación.

SR-40 Pezón "Twin-Grip" de una pieza, de goma pura, de punta chata, semejante al pezón natural, de tipo de ventosa que evita se aplaste. Se coloca y se saca con facilidad.

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Riboflavina	3 mg
Clorhidrato de Piridoxina	1.5 mg
Acido Pantoténico (Como Pantotenato de Calcio)	5 mg
Nicotinamida	25 mg
Vitamina B_{12} (equivalente de actividad)	3 mcg
Acido Fólico	0.1 mg
Acido Ascórbico	75 mg
Tocoferoles Destilados, Tipo Natural	10 mg
Vitamina A	10,000 U. I.
Vitamina D	1000 U. I.

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